

REMARKS

1. The undersigned thanks Examiners Arancibia and Hassanzadeh for the telephone interview conducted on February 14, 2006, and for providing an English translation of the Hiuga reference cited in the Office Action. Applicants' Record of Substance of Interview is attached hereto pursuant to MPEP 713.04.

2. Claims 2-4 and 9-14 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite. The Office Action indicates that the recitation of a "non-contact article holder" in Claim 2 is inconsistent with the recitation of an article being pressed against the holder's pins.

The term "non-contact" is deleted and replaced by a recitation that the article holder comprises a body for emitting one or more gas flows towards the article to develop vacuum to hold the wafer adjacent to the body, the one or more gas flows preventing the article from contacting the body. As discussed at the telephone interview, this amendment is supported by the specification, page 9, lines 28-31, page 10, line 1, page 12, line 25, and Fig. 11. As shown in Fig. 11, there is a gap between a wafer holder's body 130B and a wafer 134. One or more gas flows are emitted from the body 130B towards the wafer 134. The gas flows develop a vacuum holding the wafer proximate to the body. The vacuum can be developed by the Bernoulli effect or the vortex effect, as known in the art. The gas also prevents the wafer from contacting the body 130B. Such holders are described in the patent documents cited on page 10, lines 1-8. See for example WO 99/46805 (or the corresponding U.S. patent no. 6,168,697).

3. Claims 2-4 and 9-14 were rejected under 35 U.S.C. 103(a) over "Applicant's Admitted Prior Art (AAPA)" in view of U.S. patent 5,472,642 to Zorina et al., U.S. patent 6,845,733 to Tokmulin et al., and Japanese Patent Application Publication 62-043144 A to Hiuga.

Claim 2 recites "the article holder comprising one or more rotatable pins ..., each pin being drivable to rotate around a corresponding axis passing through the pin and to thereby

rotate the article when the article is pressed against the pin by a centrifugal force developed by the rotation of the second arm”.

The Office Action relies on Hiuga to show the rotatable pins (“rods 12” in Hiuga), but these pins do not rotate Hiuga’s wafer 11 as recited in Claim 2. Hiuga discloses a “wafer attaching and detaching apparatus” which can place the wafer on susceptor 21 and pick up the wafer from the susceptor (see page 1 of the English translation, the section “Claims”, and Figs. 1-4). The apparatus includes pieces 13 at the end of rods 12. To pick up the wafer “fastened” on the susceptor (page 2, last line, and Fig. 4(A)), rods 12 are lowered to position pieces 13 into recesses 20 below the wafer (Fig. 4(B)). Then, as described on page 3, first paragraph, the rods 12 are “brought against the peripheral lateral surface of the wafer 11” (the rods are asymmetric as shown in Fig. 2 and described in the penultimate paragraph on page 2). Then the rods 12 rotate to position pieces 13 under wafer 11. “Thus the wafer 11 is mechanically supported using the supporting pieces 13 and the peripheral surface of the ... rods 12” (page 3, first paragraph). Then the rods 12 are raised (by raising the base 10) so that “the wafer 11 is pulled apart from the susceptor 21”.

Hiuga cannot be combined with the other three references because Hiuga does not teach or suggest that the rods 12 rotate the wafer 11 as recited in Applicants’ Claim 2. When rods 12 rotate, the wafer is fastened to susceptor 21, and there is no suggestion that the friction between the wafer and the susceptor would be so low as to allow the wafer to rotate. Hiuga does not provide any motivation for the wafer rotation.

It is also noted that the Office Action states on page 6, second paragraph, that the motivation for combining Hiuga’s teaching of rotational rods with the other applied references would be “to prevent the article from sticking to the pins.” However, the applied references do not teach or suggest that their articles could stick to the pins, or that sticking of the article to the pins is undesirable. “The teaching or suggestion to make the claimed combination ... must ... be found in the prior art ...” (MPEP 2142).

The invention of Claim 2 exploits a centrifugal force to rotate an article held in position by gas in the presence of two other rotations (rotations with first and second arms).

This is not a simple problem, and the applied references do not address this problem and do not provide a solution thereto.

Claims 3-4, 9-14 depend from Claim 2.

Any questions regarding this case can be addressed to the undersigned at the telephone number below.

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